

REMARKS

The Official Action of December 23, 2003, and the prior art relied upon therein have been carefully reviewed. The claims in the application are now claims 1-20, and these claims define patentable subject matter warranting their allowance. Accordingly, the present applicants respectfully request favorable reconsideration and allowance.

Acknowledgement by the PTO of the receipt of applicants' papers filed under Section 119 is noted.

New claims 8-20 have been added, support being found at page 4, line 20 through page 5, line 2; page 5, lines 18-24; page 6, lines 13-16; the examples; and page 3, lines 9-14. These claims are patentable for the same reasons as original claims 1-6 as pointed out below.

Claims 1-6 have each been amended to specify that the sliding material is substantially free of lead¹. This feature is very clear from applicants' specification, being both explicit and implicit. As regards implicit support, the Background section of applicants' specification makes clear that, contrary to the prior art, lead is to be avoided. Explicit support is found for example at page 1, lines 2 and 3, as well as page 2, lines 16 and 17. And of course the examples are all lead-free.

Claims 1-6 have been rejected as obvious under Section 103 from the Abstract of JP 61261396 in the name of S. Mori (JP '396). This rejection is respectfully traversed.

¹ The presence of any meaningful quantity of lead (Pb) is excluded, although incidental or unavoidable trace quantities might possibly be present.

To begin, no rejection has been imposed under Section 102, i.e. there is no anticipation or lack of novelty, and applicants agree, and are proceeding in reliance thereof. The only main issue is whether or not it would have been obvious to a person of ordinary skill in the art, at the time the present invention was made, to provide applicants' sliding material from a consideration of the disclosure of JP '396.

But applicants submit that a key and main feature of the present invention, namely the avoidance of the presence of any meaningful quantity of lead (Pb)² in the sliding material, would not have been obvious from JP '396 because there is not the remotest hint in the English language abstract of JP '396 that one should eliminate as much as possible the presence of lead. As there is no teaching, no suggestion, not the remotest inference of the elimination of lead to the greatest extent possible, it must follow that what the present applicants did, including the elimination of any meaningful quantity of lead, would not have been obvious from the abstract of JP '396.

The cited JP '396 abstract discloses use of metal oxides such as **PbO**-TiO₂, **Pb₃O₄**-Sb₂O₃-TiO₂, metallic lubricant (e.g. **PbF₂**, ...), metal fluoride (e.g. **PbF₂**, ...). In other words, JP '396 has no inventive idea and no teaching for providing a lead-free sliding material.

In contrast, as stated on page 2, lines 8-12, the object of the present invention is to provide a lead-free sliding material with good wear resistance. In the present invention, the addition of at least one of injection moldable fluoro-resin, hard particles, and solid lubricant improves the

² Applicants believe and submit that such subject matter was already implicit or inherent in applicants' claims in their original form, and that therefore the amendments to claims 1-6 add no limitations and are therefore non-narrowing.

wear resistance as shown in Examples 1-7 and Table 2 on page 2 of the present specification.

The cited JP '396 uses lead as a metal powder to form some proportion of the sliding material. An essential objective of the present invention is to remove lead from the sliding material because lead and lead compounds are known to have a determined effect on the environment. Lead has been widely used in sliding materials in the past because it is relatively soft and has good corrosion resistance properties. Therefore the aim of the present invention is to provide an alternative sliding material containing no lead but with no resultant deterioration in the properties of the sliding material as a whole, and this aim is unexpectedly achieved according to the present invention.

On the other hand, even if sliding materials contain PTFE and Bi or Bi alloy, wear resistance is insufficient as described on page 2, lines 8-10 and Comparative Examples 1 to 7 of the present specification.

The cited JP '396 presents no problem of improving the wear resistance of the sliding material containing no lead, since the use of Pb is not excluded in the cited JP '396, and it therefore teaches no solution to the unrepresented problem.

Therefore, claims 1-6 would not have been obvious from the cited JP '396. Withdrawal of the rejection is in order and is respectfully requested.

The prior art documents of record and not relied upon have been noted, along with the implication that such documents are deemed by the PTO to be insufficiently pertinent to warrant their application against any of applicants' claims.

Appln. No. 09/915,568
Amd. dated March 22, 2004
Reply to Office Action of December 23, 2003

Applicants respectfully request favorable
reconsideration and allowance.

Respectfully submitted,
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By

A handwritten signature in black ink, appearing to read 'S. Neimark', written over a horizontal line.

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